

MUNDELL & ASSOCIATES, INC.

429 East Vermont Street, Suite 200, Indianapolis, Indiana 46202-3688

Phone: 317-630-9060, Fax: 317-630-9065, email: info@MundellAssociates.com

IGM Office of Land Quality - Fileroom Stamp

VRP Project Name: Michigan Plaza

VRP#: 6061202 File Code: 300

Description: FSI

Confidential? Yes No

Deliberative? Yes No

December 1, 2006

Mr. Jerry O'Callaghan
Project Manager
State Cleanup Section
Office of Land Quality
100 North Senate Avenue
Indianapolis, Indiana 46204

Re: **Further Site Investigation**
Michigan Plaza
3801-3823 West Michigan Street
Indianapolis, Indiana 421325
IDEM Incident # 0000198
MUNDELL Project No. M01046

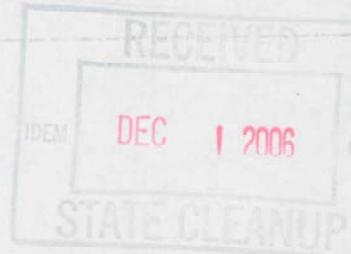
Dear Mr. Callaghan:

This letter is sent by MUNDELL & ASSOCIATES, INC. (MUNDELL), on behalf of AIMCO, in response to the Indiana Department of Environmental Management's (IDEM's) letter dated August 2, 2006 and the subsequent meeting held between yourself, Stephen Evanoff of Aimco, [chemist] and me on October 17th, 2006. Based on the discussions at our meeting, As we discussed on October 17, MUNDELL is providing general responses to the main issues raised by IDEM in its letter, and recommending specific additional investigation to address any outstanding concerns. This information is provided in the following paragraphs.

Vapor Intrusion at Michigan Plaza

IDEM raised concerns regarding the elevated PCE, TCE and vinyl chloride indoor air concentrations detected in the MUNDELL September 2005 indoor air sampling event and recommended indoor air contamination abatement. As an immediate response, AIMCO completed the following tasks:

- Evaluated approaches for vapor control systems during August/September 2006.
- Selected final design and installed sub-slab depressurization systems in September 2006.
- Completed systems startup, shake down and operation by September 21, 2006.
- Installed sampling ports on vent pipes to enable sample collection and analysis of system exhaust.
- Performed pressure readings, photoionization detector (PID) readings of the exhaust, and exhaust air sampling on a weekly basis since that time.
- Conducted post-system startup indoor air sampling on October 12 to 13, 2006 after the air mitigation system was allowed to run for three weeks .



As a result of the air mitigation systems, the indoor air concentrations have reduced by approximately 95 % and now either meet or are slightly above IDEM new draft April 2006 levels. The air mitigation systems will continue to operate throughout all future remediation activities proposed for the site. The indoor air mitigation system installation and subsequent indoor air sampling results are summarized in a report provided in **Appendix A**.

Sewer Investigation

In its August 2, 2006 letter, IDEM indicated that it believes that MUNDELL has adequately established the sewer lines as a likely pathway for chlorocarbons to be transported from the former dry cleaner location to the apartment property. However, it still has some concerns that discharges into the sewer from the former dry cleaner could have backed up into other parts of the sewer system in the western portion of the Michigan Meadows Apartments property. As such, it recommended additional evaluation.

To respond to IDEM's request, MUNDELL completed additional study of the sewer and the potential for back up. MUNDELL obtained invert elevations from this section of the sewer system and surveyed some of the locations to be able to accurately plot the inverts. The general sewer flow direction and the invert elevations in the area are depicted in **Appendix B**. With these relative invert elevations, the likelihood of backup into the western portion of the Site was reviewed. While Sections 3.10 and 4.4 of the *FSI* and the relative flow volumes observed coming from different areas strongly indicated discharges would likely only back-up along the easternmost north-south sewer line of the Apartments, MUNDELL agreed that in order to address IDEM's concerns, additional investigation would be completed at selected locations along the western sewer line legs as agreed upon during the October 17, 2006 meeting. This additional investigation includes the completion of four (4) geoprobe borings with soil and groundwater sampling at the locations shown in **Appendix C**.

Site Characterization of PCE Source Areas and Downgradient of Plaza

Based on its review, IDEM believes that there is a need for further investigation to complete the delineation of vertical and horizontal effects of contamination to groundwater at the three identified chemical source areas (Areas A, B and C). Discussions with IDEM at the October 17, 2006 meeting resulted in agreement of the following scope of investigation to complete this objective:

- 1) Three (3) additional monitoring wells downgradient of *Source Area B* (as shown in **Appendix C**).
- 2) Two (2) additional monitoring wells downgradient of *Source Area C* (as shown in **Appendix C**).
- 3) Five (5) geoprosbes (with groundwater samples) and one (1) monitoring well downgradient of the Plaza along Cossell Road and Olin Avenue (**Appendix C**).

The additional wells near the source areas will also be used to monitor the progress and effectiveness of the proposed remediation alternatives selected.

Co-mingled Groundwater Plumes

As discussed in our meeting, the Genuine and AIMCO dispute has been resolved and both parties are committed to remediating each of their respective areas of responsibility to IDEM's satisfaction. As such, adequate characterization for the purpose of implementing an effective remedial program is our primary objective. As such, AIMCO believes that any PCE and TCE impacts that are identified on either the Michigan Plaza or Michigan Meadows Apartment properties as a result of the former Accent Dry Cleaner operation (and their direct degradation products at the same depths observed) are its responsibility.

Entry into the Voluntary Remediation Program

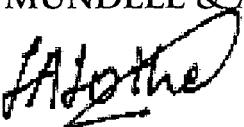
As we discussed in our meeting, AIMCO is considering entering the Site into IDEM's VRP depending on a number of factors. We understand that entrance into that program is acceptable to State Cleanup as long as AIMCO addresses all areas of concern identified by the State Cleanup program. Based on our subsequent discussions, AIMCO has decided to enter the Site into the VRP, and would like to meet with you and a VRP representative at your earliest convenience after your review of this submittal in order to start this process. At this meeting, a VRP application will be provided to the VRP representative.

We hope that this letter and the proposed scope of work are responsive to the IDEM's outstanding concerns and can result in final approval of investigation activities. As part of the transition to the VRP, we would appreciate a written confirmation of IDEM's approval of the proposed additional investigation after our upcoming meeting so that the IDEM VRP program can be assured that we have addressed all State Cleanup issues at the present time. Based on our desired schedule, we would like to complete the investigation work before the end of 2006.

In the meantime, if you have any questions, please contact MUNDELL at (317) 630-9060.

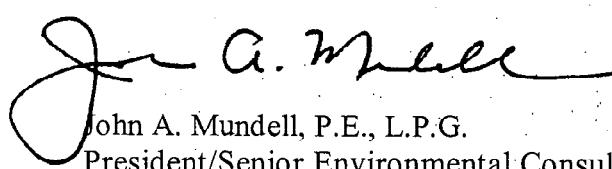
Sincerely,

MUNDELL & ASSOCIATES, INC.



Leena A. Lothe

Staff Environmental Engineer



John A. Mundell, P.E., L.P.G.
President/Senior Environmental Consultant

jam/lal

Attachments: *Appendix A, Air Mitigation System Installation Report*
Appendix B, Sewer Investigation Results
Appendix C, Proposed Additional Work

cc: Mr. Daniel P. McInerny, Esq, Bose McKinney & Evans
Mr. Stephen Evanoff, AIMCO

APPENDIX A

MUNDELL & ASSOCIATES, INC.

429 East Vermont Street, Suite 200, Indianapolis, Indiana 46202-3688
Phone: 317-630-9060, Fax: 317-630-9065, email: info@MundellAssociates.com

September 29, 2006

Mr. Stephen Evanoff
AIMCO
4582 South Ulster Street Parkway
Suite 1100
Denver, CO 80237

Re: **Indoor Air Mitigation System Installation Report – September 2006**
Michigan Plaza
3801-3823 West Michigan Street
Indianapolis, IN
MUNDELL Project No.: M01046

Dear Mr. Evanoff:

MUNDELL & ASSOCIATES, INC. (MUNDELL) is pleased to submit this letter summarizing the indoor air mitigation system installation performed at the above-referenced property (Site).

Background

The Site has been under investigation in order to evaluate the off-site impacts of the former GM AGT Plant 10 (located north of the Michigan Meadows property), and also from a secondary onsite source at Michigan Plaza. As a part of the *further site characterization*, Mundell performed indoor air monitoring at the plaza which demonstrated elevated VOC levels as a result of vapor intrusion from the sub-slab area. Mundell installed an indoor air mitigation system in September 2006 per IDEM's suggestion. The goal of this system is to suck out the sub-slab air and discharge to safe outside locations, thus eventually alleviating the indoor air concerns at Michigan Plaza.

Indoor Air Mitigation System Installation

Four sub slab depressurization units were installed by *Air Quality Control (AQC)* under the oversight of MUNDELL from September 14th 2006 through September 21st 2006. There was a unit/blower installed in the following spaces at Michigan Plaza: i) Village Pantry (B-1), ii) Former Handicap Space (B-2), iii) Mexican Store (B-3), and iv) Laundromat (B-4). The system locations are illustrated in **Figure 1**. The system installation involved coring through the slab in each of the four spaces with a 'Bosch' hammer drill (**Appendix A: Photo 2**). A 'vapor collection chamber' (**Appendix A: Photo 1**) was created beneath the concrete floors at pre-selected locations. It was confirmed that there was porous material (pea-gravel) in the vicinity of the collection chamber in order to achieve maximum suction of the sub-slab vapors (**Appendix A: Photo 3**).

Plastic vent pipes were installed into the collection chambers and the suction points were sealed in place in the concrete floor (**Appendix A: Photo 5**). Primary suction pipes ran from the collection chambers to the nearest outside wall. The centrifugal inline blowers (RP-145 series) were installed

on the exterior and the exhaust pipe was continued to the roofline (safe discharge locations) (**Appendix A: Photos 6 & 10**).

Differential pressure gauges were installed on pipes to monitor/display fan vacuum pressures. (**Appendix A: Photos 4 & 11**). The power circuits were installed to supply power for the blowers. Sampling ports were also installed onto the suction pipes to enable drawing of system samples in the future. All the four units were tuned up and running by September 21st 2006.

Sample Collection and Analysis

Photo Ionization Detector (PID) readings and system sample collection and analysis in order to get a feel for the constituents being pulled out by the system, will be performed by Mundell. The static pressure readings will be kept track of as a part of the system O&M, in order to ensure optimal suction by the blowers.

Indoor Air Monitoring

A follow up indoor air sampling event to evaluate mitigation system effectiveness was conducted by MUNDELL in October 2006. This event included sampling of the four units with the installed air mitigation systems at the Plaza. This event was performed after the systems had been running for about three weeks.

Indoor air samples were collected at four tenant units (Village Pantry (3801), vacant space (3815), Mexican Grocery store (3819) and the Laundromat (3823)) with the air mitigation systems. Each air sample was collected in a six-liter, evacuated, stainless steel Summa Canister equipped with a passive flow controller set to fill the canister over a 24-hour period. The air slowly filled the evacuated canister through a precision sapphire orifice, which was preset by DataChem Laboratories in Salt Lake City, Utah. Approximately 24 hours after each sample was placed in each building, Each of the air quality canisters used consisted of a total volume of 400 milliliters of air collected.

The canisters were then shipped back to DataChem Laboratories for analysis by a gas chromatograph/mass spectrometer (GC/MS) for TCE, PCE, cis-1,2-DCE, and VC utilizing a modified U.S. EPA Method T0-15 for Single Ion Monitoring (SIM). SIM allows detection of very low (sub-part per billion) concentrations of target analytes. Some samples were more concentrated and did not require the low detection limit of SIM analysis to provide accurate analytical results.

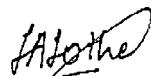
The analytical results of the air quality sampling at the Site are summarized in **Table 1** and **Figure 2**. The DataChem Laboratories sample analysis data sheets provided in **Appendix B**. These results of the sampling were compared with the existing draft Indiana Department of Environmental Management (IDEM) indoor air quality guidelines (updated for the Site via Mr. Rod Thompson, toxicologist at IDEM on November 10, 2004), U.S. EPA draft guidance target indoor air concentrations (U.S. EPA, November 20, 2002), U.S. EPA target ambient air levels (U.S. EPA, 2003-2004), and OSHA Permissible Exposure Limits (PELs) for industrial settings, provided in **Table 2**.

The air mitigation systems have reduced the indoor air concentrations by about 95% and the concentrations now either meet or are only slightly above IDEM new draft April 2006 commercial levels.

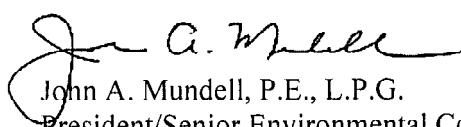
If you should have any questions regarding the enclosed results, please do not hesitate to contact us (317-630-9060).

Sincerely,

MUNDELL & ASSOCIATES, INC.



Leena A. Lothe
Staff Environmental Engineer



John A. Mundell, P.E., L.P.G.
President/Senior Environmental Consultant

/lal

Attachments: Table 1, Indoor Air Sampling Results
Figure 1, Air Mitigation System Locations
Figure 2, Indoor Air Sampling Results
Appendix A, Photographic Documentation

cc: Mr. Daniel P. McInerny, Esq, Bose McKinney & Evans

Tables

TABLE 1
AIR SAMPLING ANALYTICAL RESULTS - TO-15 SIM ANALYSIS
 Sampling Events - April 2003, October 2004, September 2005, October 2006
 Further Site Characterization
 Michigan Plaza Shopping Center
 Indianapolis, Indiana
 MUNDELL Project No. M01046

Sample ID	Sample Date	Tetrachloroethene (PCE)		Trichloroethene (TCE)		cis-1,2-Dichloroethene (cis-1,2-DCE)		Vinyl Chloride (VC)	
		ppb	ug/m ³	ppb	ug/m ³	ppb	ug/m ³	ppb	ug/m ³
VILLAGE PANTRY	4/25/2003	38.30	260	0.09	0.49	ND	ND	ND	ND
	9/29/2005	26	180	0.07	0.39	0.09	0.36	0.98	2.50
	10/12/2006	0.98	6.70	ND	ND	0.061	0.24	0.10	0.27
LIBRARY	4/25/2003	176.75	1,200	0.43	2.30	0.09	0.36	ND	ND
PLAZA3815	4/25/2003	250.39	1,700	0.43	2.30	0.08	0.33	ND	ND
	10/7/2004	18	120	0.16	0.86	0.17	0.67	0.73	1.90
	9/29/2005	42	280	0.10	0.53	0.36	1.40	0.07	0.18
	10/12/2006	3.60	25	ND	ND	ND	ND	ND	ND
PLAZA3817	4/25/2003	200	1,400	0.18	1		0.18	ND	ND
PLAZA3819 (Mexican Store) (indoor air)	10/7/2004	26	180	0.16	0.86	0.17	0.67	2.60	6.6
	9/29/2005	75	510	0.08	0.45	0.19	0.75	1.60	4.10
	10/12/2006	2.20	15	ND	ND	0.06	0.22	0.20	0.51
PLAZA3819 (Mexican Store) (below slab)	10/7/2004	1.70	12	1.70	9.1	0.96	3.80	0.04	0.09
PLAZA3823 (Laundromat)	10/12/2006	0.32	2.20	ND	ND	ND	ND	0.05	0.14
MGW-5 (grab sample)	4/25/2003	18	120	297.49	1,600	478.91	1,900	0.43	1.10
	10/7/2004	200	1400	730	3900	730	2,900	0.60	1.50
Ambient Air	10/12/2006	ND	ND	ND	ND	ND	ND	ND	ND

Note: Results shown in **RED** exceed the draft U.S. EPA guidance, those shown in **SHADING** exceed IDEM target occupational air concentrations.

Results in **BOLD** exceed the draft U.S. EPA guidance &/or IDEM target residential air concentrations

Figures



0 30 60


Michigan Meadows Apartments

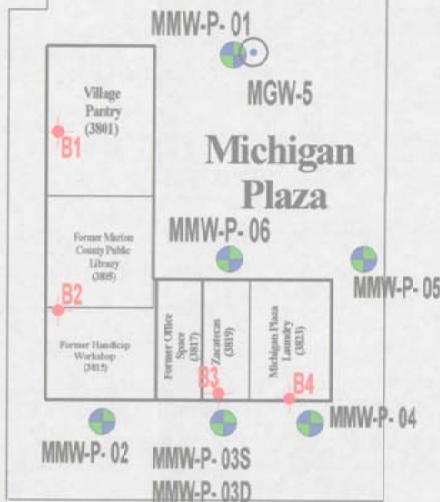


MICHIGAN STREET

Little Eagle Creek

LEGEND

- MUNDELL Air Mitigation System Locations (September 2006)
 - MUNDELL Monitoring Well Locations (September 2005)
 - MUNDELL Monitoring Gas Well



Floral Park Cemetery Property

MUNDELL & ASSOCIATES, INC.

429 East Vermont Street, Suite 200
Indianapolis, Indiana 46202-3689
317-630-9060 fax 317-630-9065

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REV	DATE	DESCRIPTION	BY	APPR	PROJECT NO.: M01046	FILE NO.: Fig1.	Fig2.
					DRAWING: 1"=60'	PLOT SIZE	
					MODIFIED BY: TP	DATE: 09/26/2014	
					CHECKED BY: LL	DATE: 09/26/2014	
					APPROVED BY: JAM	DATE: 09/26/2014	
							Printed: 12/2/2014 9:37 AM

**AIR MITIGATION SYSTEM LOCATIONS
MICHIGAN PLAZA**

FIGURE
1



0 30 60

Scale: 1 inch = 60 feet

LEGEND

- MUNDELL Air Mitigation System Locations (September 2006)
 - MUNDELL Monitoring Well Locations (September 2005)
 - MUNDELL Air Quality Sampling Location (April 23 & 24, 2003)
 - MUNDELL Indoor Air Quality Sampling Location (Oct. 2004)
 - MUNDELL Below Slab Sampling Location (Oct. 2004)
 - MUNDELL Indoor Air Quality Sampling Location (Sep 2005 and Oct 2006)
 - MUNDELL Monitoring Gas Well
 - MUNDELL Ambient Air Sample (Oct 2006)

Sample Location	
PCE	1,1,1,2-Tetrachloroethane
TCE	Trichloroethene (ug/L)
cis-1,2-DCE	cis-1,2-Dichloroethene (ug/L)
VC	Vinyl chloride (ug/L)

MUNDELL & ASSOCIATES, INC.

Consulting Professionals for the Earth and the Environment

429 East Vermont Street, Suite 200
Indianapolis, Indiana 46202-3688
317-630-9060, fax 317-630-9065

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Michigan Meadows Apartments

Residential Area

VILLAGE PANTRY			
	4/25/03	9/29/05	10/12/06
PCE	280	160	6.70
TCE	0.49	0.39	ND
cis-DCE	ND	0.36	0.24
VC	ND	2.50	0.27

LIBRARY	
	4/25/03
PCE	1,200
TCE	2.30
cis-DCE	0.36
VC	ND

Ambient Air	
	10/12/06
PCE	ND
TCE	ND
cis-DCE	ND
VC	ND

PLAZA3815				
	4/25/03	10/7/04	9/29/05	10/12/05
PCE	1,790	120	280	15,00
TCE	2.30	0.86	0.53	ND
cls-DCE	0.33	0.67	1.40	0.22
VC	ND	1.90	0.18	0.51

Floral Park Cemetery Property

MGW-5 (grab sample)		
	4/25/03	10/7/04
PCE	120	1,400
TCE	1,600	3,900
cis-DCE	1,900	2,900
VC	1.10	1.50

PLAZA3817	
4/25/0	
PCE	1,400
TCE	1,00
cis-DCE	0.18
VC	ND

PLAZA3819 (Mexican Store) (Indoor air)			
	10/7/04	9/29/05	10/12/05
PCE	180	510	15.00
TCE	0.86	0.45	ND
cls-DCE	0.67	0.75	0.22
VC	0.60	4.10	0.51

PLAZA3819 (Mexican Store) (below slab)	
	10/7/04
PCE	12
TCE	9.1
cis-DCE	3.80
VC	0.09

3 *W. H. G. Smith & Sons Ltd.*

Residential Area

Little Eagle Creek

**INDOOR AIR SAMPLING RESULTS
MICHIGAN PLAZA**

3801-3823 West Michigan Street
Indianapolis, Indiana

FIGURE

1

APPENDIX A
Photographic Documentation

Michigan Plaza Indoor Air Mitigation Sub-slab depressurization (SSD) system:

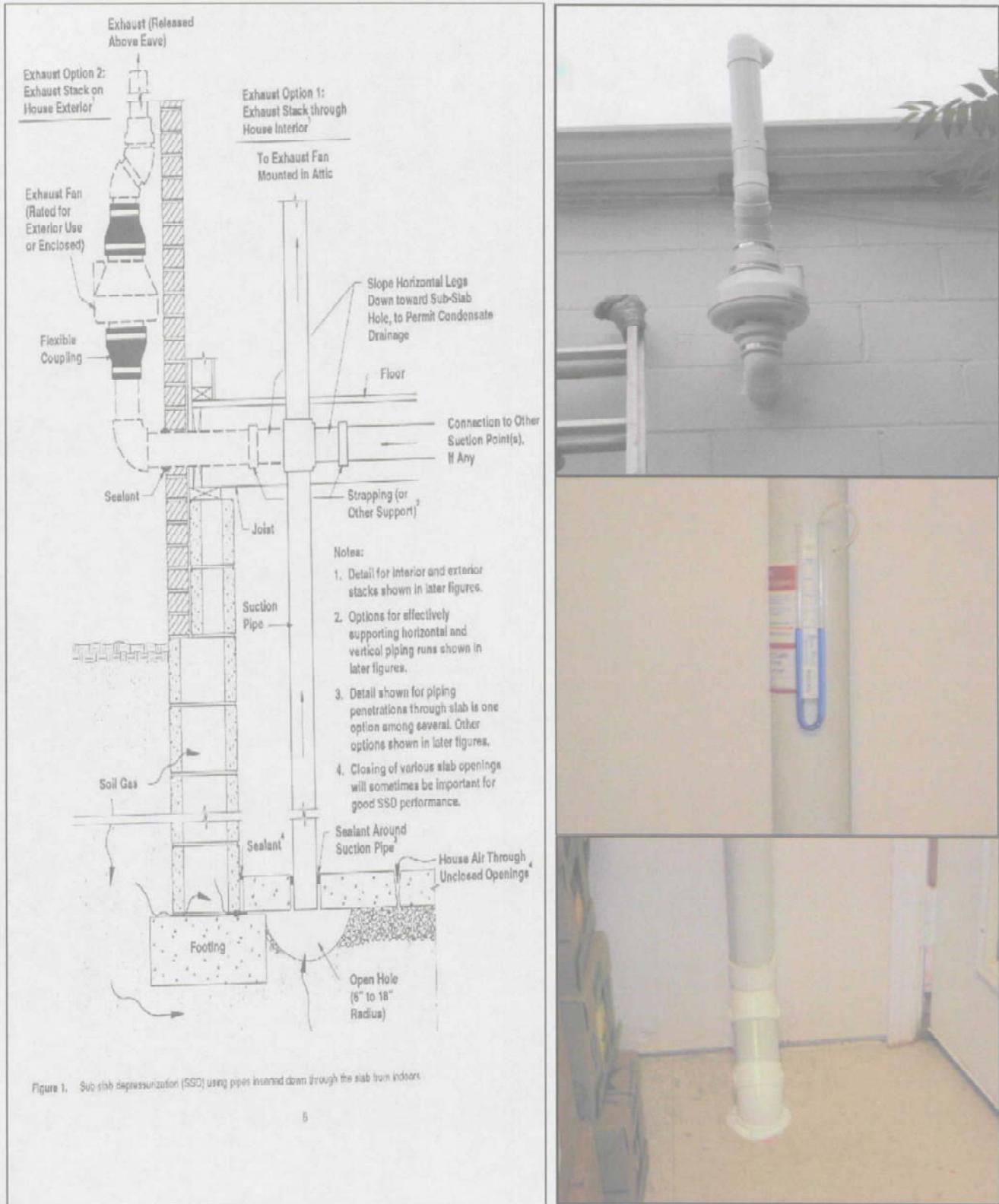




Photo 1: Coring into the slab (3819)



Photo 2: The coring process (3819)

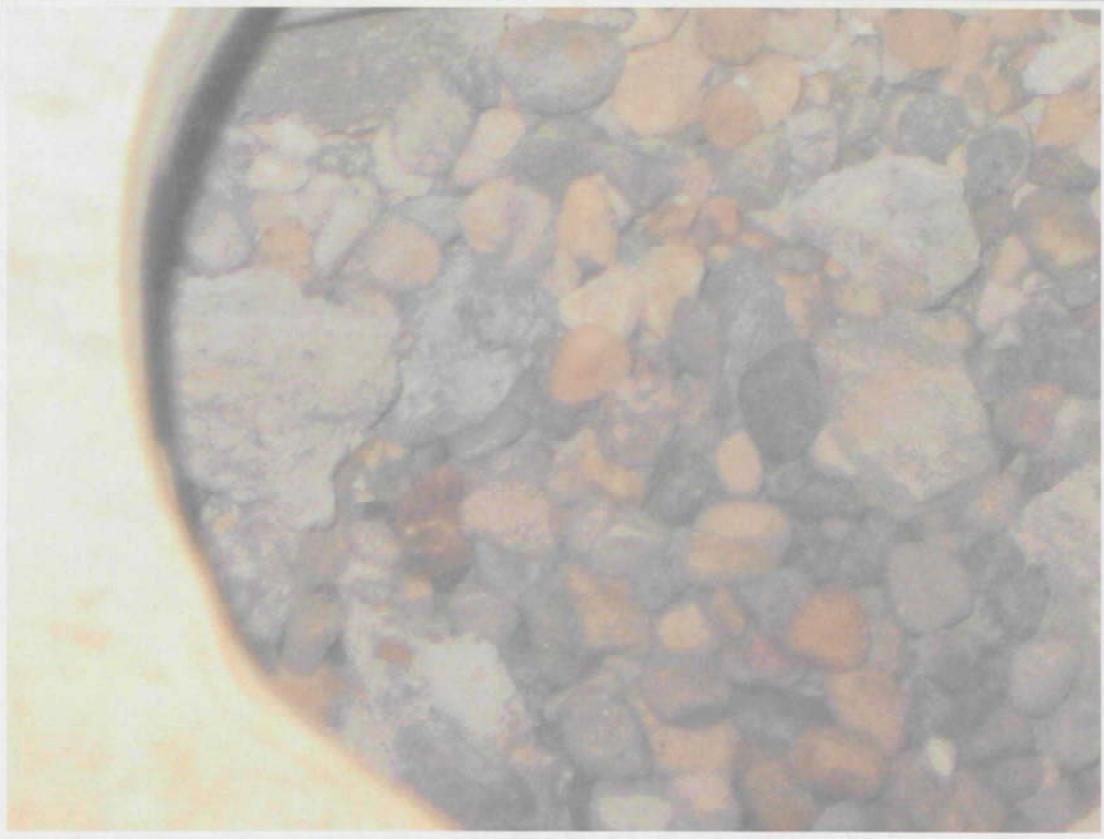


Photo 3: The sub-slab pea-gravel (3819)



Photo 4: The plastic suction pipe with the U-tube manometer (3819)



Photo 5: Suction point in the 3819 space



Photo 6: The blower (RP 145) on the 3819 outside wall

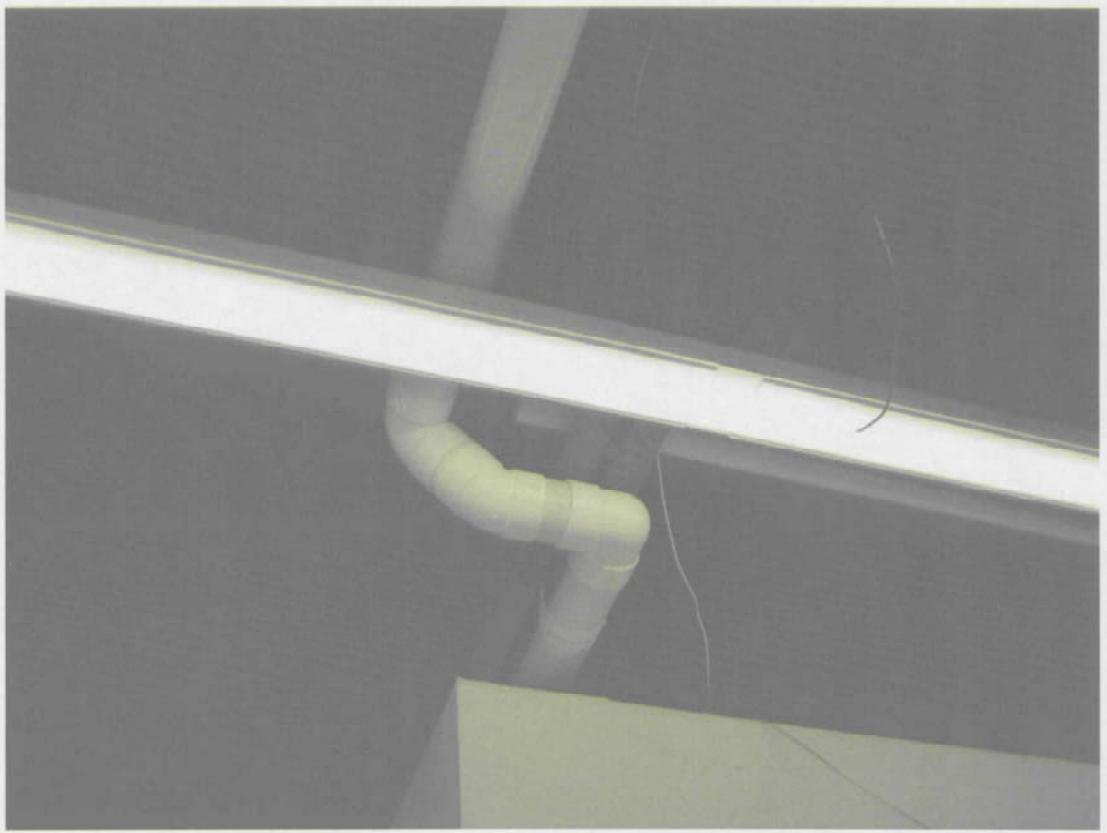


Photo 7: Piping inside the building

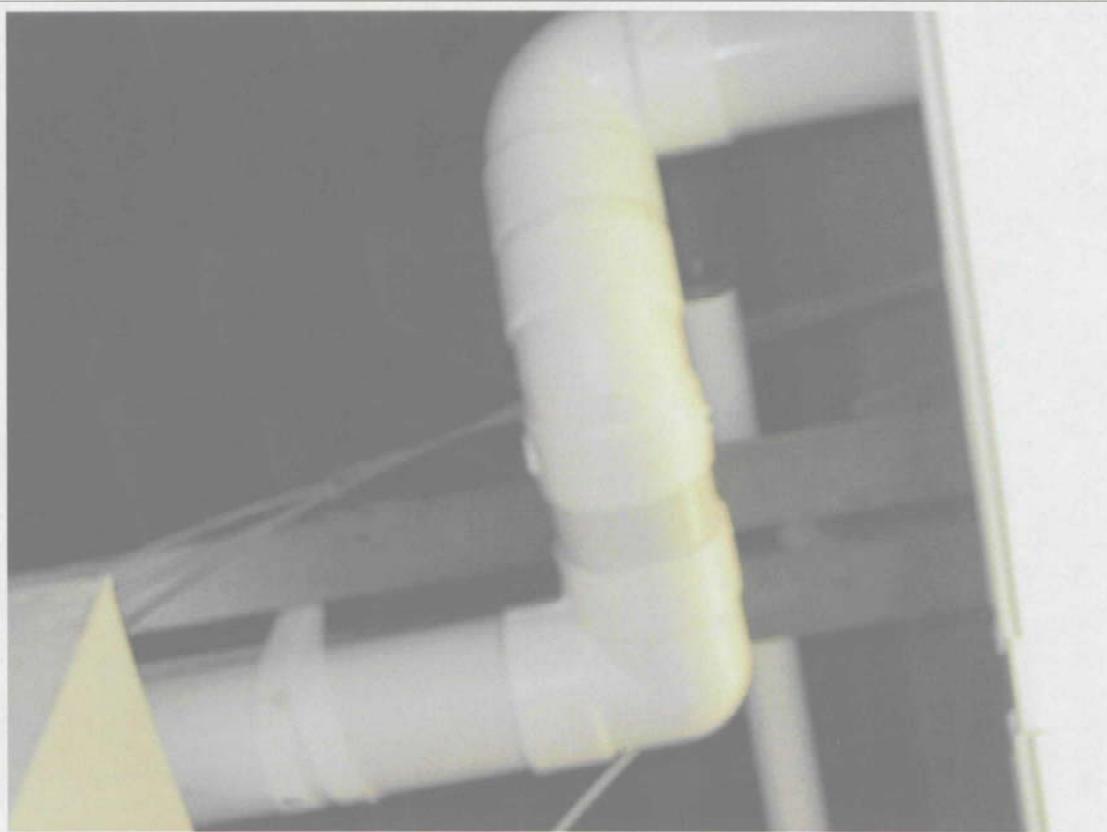


Photo 8: More piping



Photo 9: Piping proceeding outside through the wall



Photo 10: The unit with the suction point inside the handicap work shop

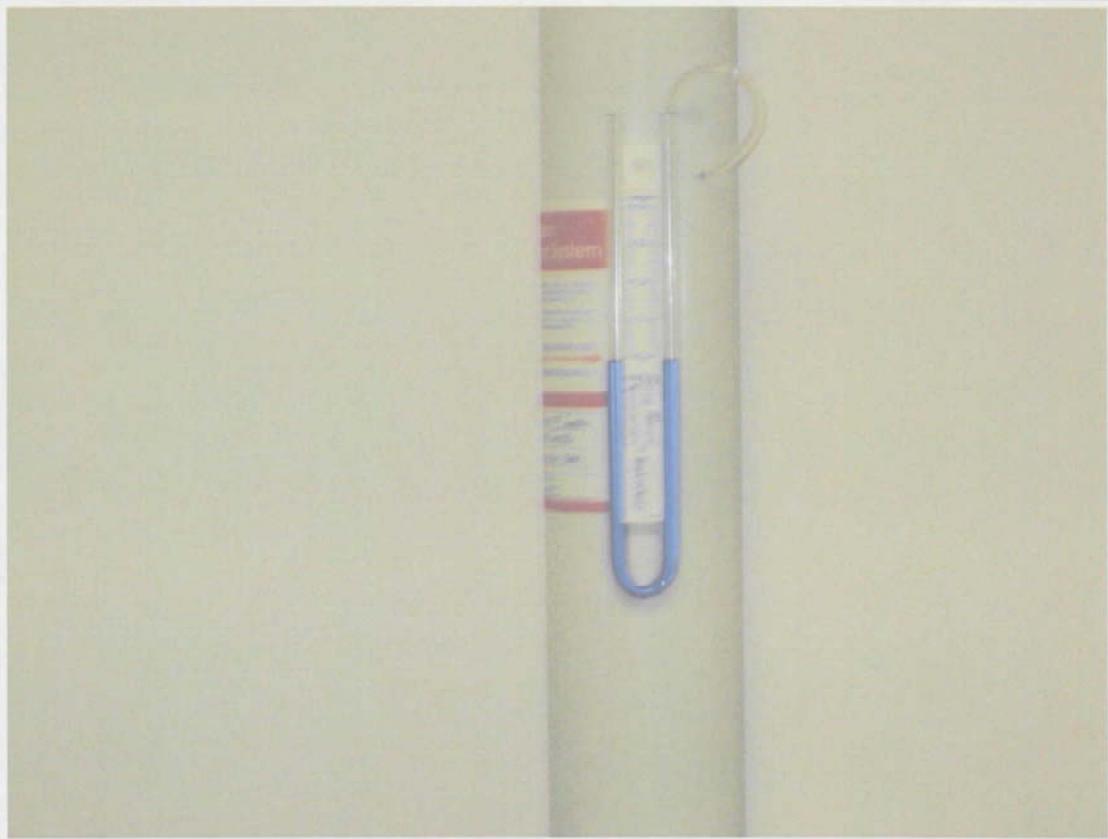


Photo 11: The manometer (static pressure reading / space 3815)

APPENDIX B
Laboratory Certificates of Analysis



COVER PAGE

OCT 24 2006

Form COVER-V1.4
10240611365182

Page 1

ANALYTICAL REPORT FOR
Workplace Safety & HealthPhone (317) 281-3917 Fax (317) 253-9754
E-mail: ragriffith@workplace-safety.netWorkplace Safety & Health
Attention: Dick Griffith
11715 Fox Road, Suite 400-225
Indianapolis, IN 46236

DCL Report Group.: 06I-5571-01

Date Printed.....: 24-OCT-06 11:36

Project Protocol #: P021C001
Client Ref Number.: K06098
Release Number....: K06098

Analysis Method(s): TO-15 SIM

<u>Client Sample Name</u>	<u>Laboratory Sample Name</u>	<u>Date Sampled</u>	<u>Date Received</u>
Method Blank	BL-252047-1	NA	NA
LCS	QC-252047-1	NA	NA
LCS Dup	QD-252047-1	NA	NA
061012-01 108900	06I41567	13-OCT-06	17-OCT-06
061012-02 108734	06I41568	13-OCT-06	17-OCT-06
061012-03 108864	06I41569	13-OCT-06	17-OCT-06
061012-04 108674	06I41570	13-OCT-06	17-OCT-06
061012-05 108732	06I41571	13-OCT-06	17-OCT-06

Analyst: Thomas J. Masclan

10.24.06

Date

Reviewer: Christopher Q. Coleman

10.24.06

Date

960 West LeVoy Drive / Salt Lake City, Utah 84123-2547
Phone (801) 266-7700 Web Page: www.datachem.com
FAX (801) 268-9992 E-mail: lab@datachem.com



FORM H (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE GROUP COMMENTS

Form RLIMS63H-V1.4
10240611365182
Page 2

G069K005

Client Name....: Workplace Safety & Health

DCL Report Group...: 06I-5571-01
Date Printed.....: 24-OCT-06 11:36
Release Number....: K06098

Sample Group Comments

Analyzed by GC/MS according to method T015 with modifications for SIM.

PQL - Practical Quantitation Limit - Lowest standard that is detectable.

MDL - Method Detection Limit - Statistically derived value using 40 CFR methods.

µg/m³ formula: (Result * MW) / 24.45

The "E" qualifier indicates a reported value above the analytical linear range.

General Information

The DCL QC Database maintains all numerical figures which are input from the pertinent data source. These data have not been rounded to significant figures nor have they been moisture corrected. Reports generated from the system, however, list data which have been rounded to the number of significant figures requested by the client or deemed appropriate for the method. This may create minor discrepancies between data which appear on the QC Summary Forms (Forms B-G) and those that would be calculated from rounded analytical results. Additionally, if a moisture correction is performed, differences will be observed between the QC data and the surrogate data reported on Form A (or other report forms) and corresponding data reported on QC Summary Forms. In these cases, the Form A will indicate the "Report Basis" as well as the moisture value used for making the correction.

Report generation options: IBX

Result Symbol Definitions

ND - Not Detected above the MDL (LLD or MDC for radiochemistry).
** - No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U - Not Detected above the MDL (LLD or MDC for radiochemistry).
B - For organic analyses the qualifier indicates that this analyte was found in the method blank.
For inorganic analyses the qualifier signifies the value is between the MDL and PQL.
J - For organic analyses the qualifier indicates that the value is between the MDL and the PQL.
It is also used for indicating an estimated value for tentatively identified compounds
in mass spectrometry where a 1:1 response is assumed.

QC Flag Symbol Definitions

* - Parameter outside of specified QC limits.



FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

Form RLIMS63A-V1.4
10240611365182
Page 3



Date Printed.....: 24-OCT-06 11:36

Client Sample Name: 061012-01|108900

Client Name.....: Workplace Safety & Health
Client Ref Number....: K06098
Sampling Site.....: Michigan Apts
Release Number.....: K06098

DCL Sample Name...: 06141567
DCL Report Group...: 061-5571-01

Date Received.....: 17-OCT-06 00:00

Matrix.....: SUMMA
Date Sampled.....: 13-OCT-06 00:00
Reporting Units....: ppb v/v

Report Basis.....: As Received Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 200 mL
Net Weight/Volume....: Not Required

DCL Analysis Group: G069R00R
Analysis Method...: T0-15 SIM

Instrument Type....: GC/MS VO
Instrument ID.....: 5972-W
Column Type.....: DB-1

Primary
 Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Units	Qual.	Dilution	PQL
Vinyl Chloride	23-OCT-06 17:39	0.050	0.053	ppb v/v	1		0.050
Vinyl Chloride	23-OCT-06 17:39	0.13	0.14	µg/m³	1		0.13
cis-1,2-Dichloroethene	23-OCT-06 17:39	0.050	ND	ppb v/v	1		0.050
cis-1,2-Dichloroethene	23-OCT-06 17:39	0.20	ND	µg/m³	1		0.20
Trichloroethene	23-OCT-06 17:39	0.050	ND	ppb v/v	1		0.050
Trichloroethene	23-OCT-06 17:39	0.27	ND	µg/m³	1		0.27
Tetrachloroethene	23-OCT-06 17:39	0.050	0.32	ppb v/v	1		0.050
Tetrachloroethene	23-OCT-06 17:39	0.34	2.2	µg/m³	1		0.34



FORM A (TYPE I)
SINGLE METHOD ANALYSES

Form RLIMS63A-V1.4
10240611365182
Page 4

SAMPLE ANALYSIS DATA SHEET



Date Printed.....: 24-OCT-06 11:36

Client Sample Name: 061012-02|108734

Client Name.....: Workplace Safety & Health
Client Ref Number....: K06098
Sampling Site.....: Michigan Apts
Release Number.....: K06098

DCL Sample Name...: 06I41568
DCL Report Group...: 06I-5571-01

Date Received.....: 17-OCT-06 00:00

Matrix.....: SUMMA
Date Sampled.....: 13-OCT-06 00:00
Reporting Units...: ppb v/v
Report Basis.....: As Received Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 200 mL
Net Weight/Volume....: Not Required

DCL Analysis Group: G069R00R

Analysis Method...: TO-15 SIM

Instrument Type...: GC/MS VO

Instrument ID.....: 5972-W

Column Type.....: DB-1

Primary

Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Units	Qual.	Dilution	PQL
Vinyl Chloride	23-OCT-06 18:28	0.050	0.20	ppb v/v		1	0.050
Vinyl Chloride	23-OCT-06 18:28	0.13	0.51	µg/m³		1	0.13
cis-1,2-Dichloroethene	23-OCT-06 18:28	0.050	0.055	ppb v/v		1	0.050
cis-1,2-Dichloroethene	23-OCT-06 18:28	0.20	0.22	µg/m³		1	0.20
Trichloroethene	23-OCT-06 18:28	0.050	ND	ppb v/v		1	0.050
Trichloroethene	23-OCT-06 18:28	0.27	ND	µg/m³		1	0.27
Tetrachloroethene	23-OCT-06 18:28	0.050	2.2	ppb v/v		1	0.050
Tetrachloroethene	23-OCT-06 18:28	0.34	15.	µg/m³		1	0.34



FORM A (TYPE I)
SINGLE METHOD ANALYSES

Form RLIMS63A-V1.4
10240611365182
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SAMPLE ANALYSIS DATA SHEET



S069K00B

Date Printed.....: 24-OCT-06 11:36

Client Sample Name: 061012-03|108864

Client Name.....: Workplace Safety & Health
Client Ref Number....: K06098
Sampling Site.....: Michigan Apts
Release Number.....: K06098

DCL Sample Name...: 06I41569
DCL Report Group...: 06I-5571-01

Date Received.....: 17-OCT-06 00:00

Matrix.....: SUMMA
Date Sampled.....: 13-OCT-06 00:00
Reporting Units....: ppb v/v
Report Basis.....: As Received Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 200 mL
Net Weight/Volume....: Not Required

DCL Analysis Group: G069R00R
Analysis Method...: TO-15 SIM
Instrument Type...: GC/MS VO
Instrument ID.....: 5972-W
Column Type.....: DB-1
 Primary
 Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Units	Qual.	Dilution	POL
Vinyl Chloride	23-OCT-06 19:15	0.050	ND	ppb v/v		1	0.050
Vinyl Chloride	23-OCT-06 19:15	0.13	ND	µg/m³		1	0.13
cis-1,2-Dichloroethene	23-OCT-06 19:15	0.050	ND	ppb v/v		1	0.050
cis-1,2-Dichloroethene	23-OCT-06 19:15	0.20	ND	µg/m³		1	0.20
Trichloroethene	23-OCT-06 19:15	0.050	ND	ppb v/v		1	0.050
Trichloroethene	23-OCT-06 19:15	0.27	ND	µg/m³		1	0.27
Tetrachloroethene	23-OCT-06 19:15	0.050	3.6	ppb v/v	E	1	0.050
Tetrachloroethene	23-OCT-06 19:15	0.34	25.	µg/m³	E	1	0.34



FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

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Date Printed.....: 24-OCT-06 11:36

Client Sample Name: 061012-04|108674

DCL Sample Name...: 06I41570

DCL Report Group...: 06I-5571-01

Client Name.....: Workplace Safety & Health

Client Ref Number....: K06098

Sampling Site.....: Michigan Apts

Release Number.....: K06098

Matrix.....: SUMMA

Date Received.....: 17-OCT-06 00:00

Date Sampled.....: 13-OCT-06 00:00

Reporting Units...: ppb v/v

Report Basis.....: As Received Dried

DCL Preparation Group: Not Applicable

DCL Analysis Group: G069R00R

Date Prepared.....: Not Applicable

Analysis Method...: TO-15 SIM

Preparation Method...: Not Applicable

Instrument Type...: GC/MS V0

Aliquot Weight/Volume: 200 mL

Instrument ID.....: 5972-W

Net Weight/Volume....: Not Required

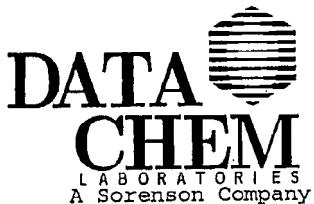
Column Type.....: DB-1

Primary

Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Units	Qual.	Dilution	POL
Vinyl Chloride	23-OCT-06 20:02	0.050	0.10	ppb v/v		1	0.050
Vinyl Chloride	23-OCT-06 20:02	0.13	0.27	µg/m³		1	0.13
cis-1,2-Dichloroethene	23-OCT-06 20:02	0.050	0.061	ppb v/v		1	0.050
cis-1,2-Dichloroethene	23-OCT-06 20:02	0.20	0.24	µg/m³		1	0.20
Trichloroethene	23-OCT-06 20:02	0.050	ND	ppb v/v		1	0.050
Trichloroethene	23-OCT-06 20:02	0.27	ND	µg/m³		1	0.27
Tetrachloroethene	23-OCT-06 20:02	0.050	0.98	ppb v/v		1	0.050
Tetrachloroethene	23-OCT-06 20:02	0.34	6.7	µg/m³		1	0.34



FORM A (TYPE I)
SINGLE METHOD ANALYSES

SAMPLE ANALYSIS DATA SHEET

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S069K00D

Date Printed.....: 24-OCT-06 11:36

Client Sample Name: 061012-05|108732

Client Name.....: Workplace Safety & Health
Client Ref Number....: K06098
Sampling Site.....: Michigan Apts
Release Number.....: K06098

DCL Sample Name...: 06141571

DCL Report Group...: 06I-5571-01

Date Received.....: 17-OCT-06 00:00

Matrix.....: SUMMA

Date Sampled.....: 13-OCT-06 00:00

Reporting Units...: ppb v/v

Report Basis.....: As Received Dried

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method...: Not Applicable
Aliquot Weight/Volume: 200 mL
Net Weight/Volume....: Not Required

DCL Analysis Group: G069R00R

Analysis Method...: TO-15 SIM

Instrument Type....: GC/MS VO

Instrument ID.....: 5972-W

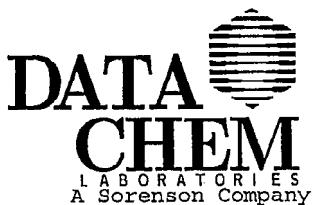
Column Type.....: DB-1

Primary

Confirmation

Analytical Results

Analyte	Date Analyzed	MDL	Result	Units	Qual.	Dilution	POL
Vinyl Chloride	23-OCT-06 20:48	0.050	ND	ppb v/v		1	0.050
Vinyl Chloride	23-OCT-06 20:48	0.13	ND	µg/m³		1	0.13
cis-1,2-Dichloroethene	23-OCT-06 20:48	0.050	ND	ppb v/v		1	0.050
cis-1,2-Dichloroethene	23-OCT-06 20:48	0.20	ND	µg/m³		1	0.20
Trichloroethene	23-OCT-06 20:48	0.050	ND	ppb v/v		1	0.050
Trichloroethene	23-OCT-06 20:48	0.27	ND	µg/m³		1	0.27
Tetrachloroethene	23-OCT-06 20:48	0.050	ND	ppb v/v		1	0.050
Tetrachloroethene	23-OCT-06 20:48	0.34	ND	µg/m³		1	0.34



FORM J (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
LABORATORY CONTROL SAMPLE (LCS)
LABORATORY CONTROL DUPL (LCD)

Form RLIMS63J-V1.4
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S069K02N

Client Name.....: Workplace Safety & Health
Release Number.....: K06098

Matrix.....: AIR
Reporting Units.....: ppb v/v

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method....: Not Applicable

DCL Sample Name....: QC-252047-1
Date Printed.....: 24-OCT-06 11:36

DCL Analysis Group: G069R00R

Analysis Method....: T015SIM

Instrument Type....: GC/MS VO

Instrument ID.....: 5972-W

Column Type.....: DB-1

Primary

Confirmation

QC Limit Type.....: Method

Analytical Results

Analyte	Date Analyzed	Target	Result	Percent Recovery	QC Limits	QC Flag
Vinyl Chloride	24-OCT-06 08:31	250.	264.	106.	65.0/135.	
cis-1,2-Dichloroethene	24-OCT-06 08:31	250.	271.	108.	65.0/135.	
Trichloroethene	24-OCT-06 08:31	250.	229.	91.6	65.0/135.	
Tetrachloroethene	24-OCT-06 08:31	250.	222.	88.7	65.0/135.	



S069K02P

DCL Sample Name....: QD-252047-1

Analytical Results

Analyte	Date Analyzed	Duplicate Result	Percent Recovery	Mean	Range	RPD	QC Limits	QC Flag
Vinyl Chloride	24-OCT-06 09:14	266.	106.	265.	1.25	0.47	0.00/25.0	
cis-1,2-Dichloroethene	24-OCT-06 09:14	264.	106.	268.	6.26	2.3	0.00/25.0	
Trichloroethene	24-OCT-06 09:14	210.	84.0	220.	19.1	8.7	0.00/25.0	
Tetrachloroethene	24-OCT-06 09:14	204.	81.4	213.	18.1	8.5	0.00/25.0	



FORM C (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
BLANK SAMPLE

Form RLIMS63C-V1.4
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S069K02M

Client Name.....: Workplace Safety & Health
Release Number....: K06098

Matrix.....: SUMMA
Reporting Units....: ppb v/v

DCL Preparation Group: Not Applicable
Date Prepared.....: Not Applicable
Preparation Method....: Not Applicable

DCL Sample Name....: BL-252047-1
Date Printed.....: 24-OCT-06 11:36

DCL Analysis Group: G069R00R
Analysis Method...: TO-15 SIM
Instrument Type....: GC/MS VO
Instrument ID.....: 5972-W
Column Type.....: DB-1

Primary
 Confirmation

QC Limit Type.....: Method

Analytical Results

Analyte	Date Analyzed	Result	MDL	CRDL
Vinyl Chloride	23-OCT-06 16:50	ND	0.050	0.050
cis-1,2-Dichloroethene	23-OCT-06 16:50	ND	0.050	0.050
Trichloroethene	23-OCT-06 16:50	ND	0.050	0.050
Tetrachloroethene	23-OCT-06 16:50	ND	0.050	0.050



FORM G (TYPE I)
SINGLE METHOD ANALYSES

QUALITY CONTROL DATA SHEET
SURROGATE SUMMARY

Form RLIMS63G-V1.4
10240611365182

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Date Printed.....: 24-OCT-06 11:36

Client Name.....: Workplace Safety & Health
Release Number.....: K06098

DCL Analysis Group: G069R00R
Analysis Method...: T015SIM

Matrix.....: AIR
Reporting Units.....: ppt

DCL Prep Group....: Not Applicable
Preparation Method: Not Applicable

QC Limit Type.....: Method

Surrogate Recoveries

Surr. ID		4-Bromofluorobenzene									
QC Limits		50.0/150.									
DCL Sample Number	Analyte Result	Spiked Amount	% Rec. Q	Analyte Result	Spiked Amount	% Rec. Q	Analyte Result	Spiked Amount	% Rec. Q		
06I41567	466.	500.	93.3								
06I41568	560.	500.	112.								
06I41569	493.	500.	98.6								
06I41570	464.	500.	92.8								
06I41571	445.	500.	89.0								
BL-252047-1	478.	500.	95.6								
QC-252047-1	499.	500.	99.7								
OD-252047-1	485.	500.	97.0								

APPENDIX B



LEGEND

- Fence
- MW 160 Keramida Monitoring Wells
- MMW-P-05 MUNDELL Monitoring Wells (September 2005)
- Approximate Sewer Manhole Locations

- GPA-04 MUNDELL Soil Boring Locations (September 2005)
- Sewer Line Location
- Belly/offset Area
- Worn out Joints

708.62 (Bold) Invert elevations of sewer lines were surveyed by MUNDELL on 9/21/06 relative to Keramida Well MW-167S

(Normal Font) Invert elevations of sewer lines were extrapolated from as-built drawings obtained from the Department of Metropolitan Development. Elevation was extrapolated from design drawings by taking field verified survey elevations and adding elevation based on design slopes of individual sewer segments.



SCALE 200

feet
Keramida Monitoring Well Locations Referred from Keramida Environmental, Inc.
Project No. 3829
March 13, 2002

MUNDELL & ASSOCIATES, INC.
Consulting Professionals for the Earth & Environment

429 East Vermont Street, Suite 200
Indianapolis, Indiana 46202-3688
317-630-9060, fax 317-630-9065

Project Number: M01046
Drawing File: Base Map.SKF
Date Prepared: 9/21/06
Scale: 1"=200'±

SEWER INVERT ELEVATIONS
Further Site Characterization
Michigan Plaza
3801-3823 West Michigan Avenue
Indianapolis, Indiana

APPENDIX

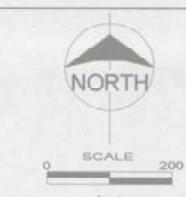
B

APPENDIX C



LEGEND

- Fence
- MW160 Keramida Monitoring Wells
- SS-P-01 MUNDELL Sewer Sampling Locations (September & November 2005)
- GP-07 MUNDELL Soil Boring Locations (September 2005)
- MMW-P-08 MUNDELL Monitoring Wells, Michigan Plaza (September 2005)
- Total PCE concentration in groundwater, ppb
- MUNDELL Proposed Soil Boring Locations (October 2006)
- MMW-P-06 MUNDELL Proposed Monitoring Wells (October 2006)
- Sewer Line Location



Keramida Monitoring Well Locations Referenced from Keramida Environmental, Inc.
Project No. 2829
March 13, 2002

MUNDELL & ASSOCIATES, INC.
Consulting Professionals for the Earth & Environment

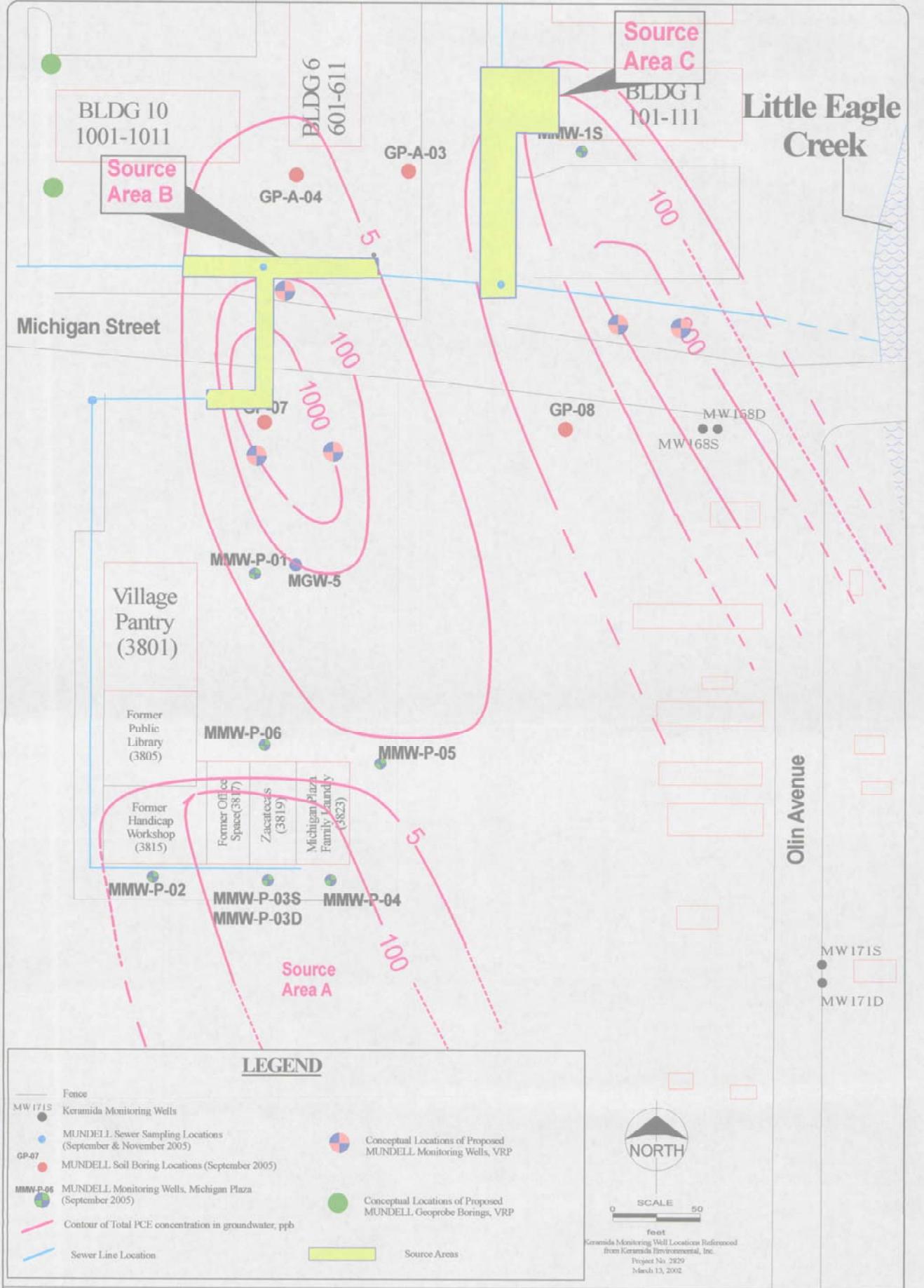
429 East Vermont Street, Suite 200
Indianapolis, Indiana 46202-3688
317-630-9060, fax 317-630-9065

Project Number:	M01046
Drawing File:	Base Map SKF
Date Prepared:	12/30/05
Scale:	1"=200'

Proposed Additional Work
Michigan Plaza
3801-3823 West Michigan Street
Indianapolis, Indiana

FIGURE
C1

Little Eagle Creek



MUNDELL & ASSOCIATES, INC.

Consulting Professionals for the Earth & Environment

429 East Vermont Street, Suite 200
Indianapolis, Indiana 46202-3688
317-630-9060, fax 317-630-9065

Project Number:
M01046

Drawing File:
Remediation Opt A1.SKF

Date Prepared:

10/5/06

Scale:

1"=50' ±

**Proposed Additional Work
Voluntary Remediation Program**
Michigan Plaza
3801-3823 West Michigan Street
Indianapolis, Indiana

FIGURE

C2